The present invention describes cation channel polypeptides (1), termed molecule (II), which: (a) encodes (I); or (b) hybridises under high crimpency conditions with the nucleic acid molecule of (a); (2) a vector extragency conditions with the nucleic acid molecule of (a); (2) a vector comprising (II); (3) a host cell transformed with the vector; (4) a tringency conditions with the nucleic acid molecule of (a); (2) a vector comprising (II); (5) a ligand which binds tetrameric cation channel; (6) a compound that either increases or cation channel; (7) a method of diagnosing a disease in a patient; (6) a method of monitoring the therapeutic treating a disease in a patient; (11) a method of monitoring the therapeutic treating a disease in a patient; (11) a method of monitoring the therapeutic treating a disease in a patient; (11) a method of monitoring the therapeutic treating a disease in a patient; (11) a method of monitoring the therapeutic treating a disease in a patient; (11) a method of monitoring the therapeutic treating a disease in a patient; (11) a method of monitoring the therapeutic treating a disease in a patient; (11) a method of monitoring the therapeutic treating disease in a patient; (11) a method of monitoring the therapeutic treating disease in a patient; (11) a mathod of monitoring the therapeutic treating disease in a patient; (11) a mathod of monitoring the therapeutic treation of disease in a patient; (11) and a reagent useful for the identification of a binding reaction between the controder disease in a patient; (12) and a reagent useful for the detection of a binding reaction between the convocut non-human animal that has been transformed to express higher, lowed on absent levels of (1); and (15) a method for screening for a compound effective to treat a disease or disorder, in when a contraceptive active to treat a disease or disorder, in the retained of a contraceptive activities, and can be contraceptive active to the treatment of the treatment of the treatment of the present invention New INPIONCHOS and INPIONCHO6 polypeptides, useful as a contraceptive agent, or for diagnosing and treating a disease or disorder, e.g. infertility, neurological disorder, cardiovascular disorder, autoimmune Pierron ŭ Reynolds Allen KE, Disclosure; Fig 11; 96pp; English. Ď, Michalovich WPI; 2004-053233/05. disease or stroke. Lobley AB,

Sequence 588 AA;

Gaps 90; 67.3%; Score 1788; DB 8; Length 588; 61.7%; Pred. No. 1.4e-155; Indels 73; ; Pred. No. 1.4e 67; Mismatches Best Local Similarity 61.7 Matches 370; Conservative Query Match

64 62 S QQEEQMQLPRADAIRSRLIDIFSLIEHLQGLSQAVPRHTIRELLDPSRQKKLVLGDQHQL

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VRFSIKDRRMGHITHSRRLLSRLRVRCSRMPDLSLWAGWVLDSSVFSKFIISLIFLNTFV 122 VRPSIKPORIEQISHAORLLSRLHVRCSORPPLSLWAGWVLBCPLFKNFIIFLVFLNTII 124 65

443 588 DDDDDDXSDATESDGERSDSENSESENISESEKIDPEKDYAKKSYPEKSHPEKSYPEKSHP 471 DVWKVPEVSRIFSSIYFILMLLLGSIIFRSIIVAMMVTNPQNIRKELNBEMARREVQLKA ----ESNYGATERDLITSASKTERT-----LSKKRRYQSSSC-----------VSSTSSSYSS-SSESRFSESIGREDWE TLVHENLPGLMEMDQDDR-VWPRDSLPRYPELLEKLQYNLBERKKLQBPAVQALMNLEDK DMFKROIIORRKNMSHEALTSSHSKIEDRGASQORESLDLSEVSEV--363 412 529 305 303 365 411 444 470 a ð 셤 셤 셤 ò ठ 셤 ठ

RESULT 12 AAB52176

ż AAB52176 standard; protein; 243

AAB52176;

(first entry) 22-FBB-2001 Human secreted protein BLAST search protein SEQ ID NO: 132.

Cytostatic; immunosuppressive; nootropic; neuroprotective; antiviral; antiallergic; hepatotropic; antidiabetic; antifulammatory; antiulcer; univinerary; anticonvulsant; antidecerial; antifungal; antiparasitic; cardiant; gene therapy; cancer; immune disorder; cardiovascular disorder; neurological disease; infection; human; secreted protein.

Homo sapiens.

WO200061624-A1.

19-OCT-2000.

06-APR-2000; 2000WO-US008980

09-APR-1999; 99US-0128700P. 20-JAN-2000; 2000US-0176930P.

(HUMA-) HUMAN GENOME SCI INC.

Komatsoulis G; Ruben SM, Rosen CA,

WPI; 2000-656324/63.

New nucleic acid molecules encoding human secreted proteins, used preventing, treating or amellorating a disorder, e.g. Alzheimer's Parkinson's diseases and cancers. preventing,

Disclosure; Page 469-470; 478pp; English.

The invention relates to the isolation of genes AAC96900-C96947 encoding the human secreted proteins AAB52104-B52150. This sequence was used as a query sequence for BLASTX searches. The genes and proteins are useful for preventing, ameliorating or treating medical conditions, e.g. by protein or gene therapy. The genes are isolated from a range of human tissues disclosed in the specification. The mucleic acids, proteins, antibodies and (ant) agonists are useful in the diagnosis, treatment and prevention of: (a) cancer, e.g. breast and ovarian cancer, and other cancers of the adrenal gland, bone, bone marrow, breast, gastrointestinal tract, liver, lung, or urogenital; (b) immune disorders e.g. Addison's disease, allergies, autoimmune haemolytic andemia, autoimmune thyroiditis, allebetes mellitus, Crohn's disease, multiple sclerosis, rheumatoid arthritis and ulcerative colitis; (c) cardjovascular disorders such as

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Length 236; Indels

38.4%; Score 1020; DB 7; 100.0%; Pred. No. 2.6e-85; tive 0; Mismatches 0;

Conservative

Local Similarity nes 202; Conserv

Best Loca Matches

Query Match

139 35

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Sequence 236 AA;

198

LWPLKLTLEVAAWFILLIFILBILLKWLSNFSVFWKSAWNVFDFVVTMLSLLPEVVVLVG LWPLKLTLEVAAWFILLIFILETLIKWLSNFSVFWKSAWNVFDFVVTWLSLLPEVVVLVG VTGQSVWLQLLRICRVLRSLKLLAQFRQIQIIILVLVRALKSWTFLLMLLLIFFYIFAVT

94

shares

including antibodies and antisense compositions. The present invention presents compositions that can be useful for the prevention, treatment and diagnosis of sterility caused by lack of sperm or sperm motility, sperm deformity or death, as well as testis disorders, amenorrhoea and menstrual disorders. Additionally, drugs containing the TYH207 protein can be used for treating various cancers, for example cancer of the testis, ovary, breast or stomach, also non-small cell lung cancer. Accordingly, these compositions have antiinfertility and cytostatic activities. This polypeptide sequence is the CatSper2 protein that shar homology with the human TCH207 protein of the invention.

88666666666668888

modulate the activity or expression of the calcium ion channel proteins

258

VTGQSVWLQLLRICRVLRSLXLLAQPRQIQIIIIVLVRALKSWTFLLALLLIFFYIFAVT 154

199

92 259 155 319

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8

GVYVFSEXTRSPRQDLEYHVFPSDLPNSLVTVFILPTLDHWYALLQDVWKVPEVSRIPSS 214

IYFILWLLLGSIIFRSIIVAMM 340

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AAB52145 standard, protein; 174

RESULT

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(first entry)

22-FEB-2001

AAB52145;

GVYVPSEYTRSPRODLEYHVPPSDLPNSLVTVPILFTLDHWYALLODVWKVPEVSRIPSS

318

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VIVEILETLDHWYALLQDVWKVPEVSRIFSSIYFILWLLLGSIIFRSIIVAMMYTNFQNI 347
                                                                                                                                                                                                                                                                                                  VIVFILETLDHWYALLQDVWKVPEVSRIFSSIYFILWILLGSIIFRSIIVAMMYTNFQNI 240
                                                                                                                                                                                 NPSVPWKSAWNVFDFVVTMLSLLPEVVVLVGVTGQSVWLQLLRICRVLRSLKLLAQFRQI 227
                                                                                                                                                                                                         NPSVPWKSAWNVPDPVVTWLSLLPBVVVLVGVTGOSVWLQLLRICRVLRSLKLLAQFRQI 120
                                                                                                                                                                                                                                 QIIILVLVRALKSMTFLLMLLIFFYIFAVTGVYVFSBYTRSPRODLEYHVFFSDLPNSL 287
                                                                                                                                                                                                                                                         QIIILVLVRALKSMTFLLMLLIFFYIFAVTGVYVFSEYTRSPRODLEYHVFFSDLPNSL 180
                                                                                                                                                          9
myocardial ischaemias; (d) wound healing; (e) neurological diseases e.g. cerebral anoxia and epilepsy; and (f) infectious diseases such as viral, bacterial, fungal and parasitic infections
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CatSper2; potential-dependent calcium ion channel; TCH207; sterility; sperm motility; deformity; testis disorder; amenorrhoea; menstrual disorder; cancer; non-small cell lung cancer; antiinfertility;
                                                                                                                               PLFKNPIIPLVFLNTIILMVBIBLLBSTNTKLWPLKLTLEVAAWFILLIFILBILLKWLS
                                                                                                                                                  1 PLFKNFIIFLVFLNTIILMVEIBLESTNTKLWPLKCTLEVAAWPILLIFILEILLKWLS
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                                                                               Length 243;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CatSper2 protein sequence homologous to human TCH207 protein
                                                                                                       Indels
                                                                             46.0%; Score 1221; DB 3; L
100.0%; Pred. No. 7.7e-104;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                           ADF74605 standard; protein; 236 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  24-APR-2002; 2002JP-00123155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-OCT-2002; 2002JP-00289099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (TAKE ) TAKEDA CHEM IND LID.
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                                                                                                      Conservative
                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                      RKB 350
                                                                                                                                                                                                                                                                                                                                                              RKE 243
                                                     Sequence, 243 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO2003091434-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Unidentified
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                                                                                                      243;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cytostatic.
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                                                                             Query Match
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Matches
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Cytostatic; immunosuppressive; nootropic; neuroprotective; antiviral; antiallergic; hepatotropic; antidiabetic; antiinflammatory; antiulcer; vulnerary; anticonvulsant; antidacterial; antifungal; antiparasitic; cardiant; gene therapy; cancer; immune disorder; cardiovascular disorder; neurological disease; infection; human; secreted protein.
                                                                                                                                                                                                                                                                                                                                                                                                                             wer nucteic acid molecules encoding human secreted proteins, used in preventing, treating or ameliorating a disorder, e.g. Alzheimer's and Parkinson's diseases and cancers.
                                                                     Human secreted protein encoded by cDNA #43.
                                                                                                                                                                                                                                                                                                                                                                       Komatsoulis G;
                                                                                                                                                                                                                                                                     06-APR-2000; 2000WO-US008980.
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20-JAN-2000; 2000US-0176930P.
                                                                                                                                                                                                                                                                                                                                         (HUMA-) HUMAN GENOME SCI INC
                                                                                                                                                                                                                                                                                                                                                                       Rosen CA, Ruben SM,
                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2000-656324/63
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                                                                                                                                                                                                              WO200061624-A1.
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This invention relates to a novel potential-dependent calcium ion channel dentified as the TGH207 protein, as well as TGH207 salts and partial peptides derived thereof. Specifically, it refers to three variants of the human TGH207 and also related proteins having equivalent activity. Furthermore, it describes a screening method to identify compounds that

Potential-dependent calcium ion channel protein TCH207 and gene encoding it for treatment and diagnosis of cancer and sterility.

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Sagiya Y,

Nakanishi A,

WPI; 2003-854403/79

Disclosure; Fig 1; 121pp; Japanese.